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GEOMAGNETIC OBSERVATIONS IN THE ARCTIC OCEAN DRIFT STATION ARLIS II JUNE 3 TO AUGUST 21, 1962

James C. G. Walker

LAMONT GEOLOGICAL OBSERVATORY
COLUMBIA UNIVERSITY
Palisades, New York

Technical Report No. 3
CU-3-64 - Nonr 266 [82]

Advanced Research Projects Agency
Order No. 218
Amendment No. 4
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March, 1964

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A nuclear resonance magnetometer was operated on Drift Station Arlis II in the Arctic Ocean during the summer of 1962. The measurements cover the period June 3 to August 21, 1962. During this period Arlis II drifted over a region bounded by latitudes 81°30' and 82°20' North, and by longitudes 161°and 169° East, corresponding to a geomagnetic latitude of approximately 72° North. The drift track is shown in Figure 1. At the time of the magnetic measurements, Arlis II was in water about 2800 meters deep over the Wrangel Abyssal Plain.

A strip chart record of the total intensity of the magnetic field was made at a speed of 4 minutes to the inch and a sensitivity of approximately 11 gamma to the inch. Instantaneous hourly values read from this record are given in Table 1. The hourly values are plotted against Greenwich Mean Time in Figure 2. Missing values are the result of instrument failure.

Figure 3 shows daily averages of the magnetic field total intensity measured on Arlis II compared with similar data obtained on Fletcher's Ice Island (T-3) in 1961, (Walker, 1963). The T-3 measurements were made at a time when the island was aground in about 40 meters of water at 72°N, 160°W. The fluctuations in the

T-3 daily averages are therefore purely temporal effects, reflecting magnetic activity. The Arlis II data, on the other hand, reflect both spatial and temporal variations in the magnetic field. Comparison of the two sets of data enables an estimate to be made of the extent to which the variations in the Arlis II daily averages reflect spatial rather than temporal effects. On the basis of this comparison it appears that the high values in the Arlis II data which occur on about June 26, August 3, and August 21 represent spatial variations, presumably related to geologic structure. This aspect of these data is being analysed in detail, (H. Kutschale, private communication, 1964).

The mean daily variation of the total intensity has been calculated for the twelve week period covered by the measurements, without discrimination between spatial and temporal variations. Figure 4 shows the mean daily variation for all the days as well as for the 13 International Disturbed Days and the 14 International Quiet Days on which data were obtained. Table 2 lists the values plotted in Figure 4.

The results for all days show a daily amplitude of about 200 gamma, with a single maximum at about 0900 hours local time. In contrast, the T-3 1961 data show an amplitude of about 130 gamma, with a maximum at about 0500 hours and a subsidiary maximum at about 1600 hours local time, (Walker, 1963).

Table 2 also gives the average of all hourly values measured on disturbed, quiet and all days. The measured value of 57600 gamma in this area is about 2000 gamma less than the value given by the Hydrographic Office chart, (Hydrographic Office, 1954).

Acknowledgments

The measurements were made by H. Kutschale and G. Rasmussen. The hourly values were read by Mrs. M. Furey.

This research was supported under contract Nonr-266(82) with the Office of Naval Research.

References

Hydrographic Office, The Total Intensity of the Earth's Magnetic Force, Chart Number 1704N, 2nd Edition, Hydrographic Office, Washington, D. C., 1954.

Walker, J. C. G., Geomagnetic observations on Fletcher's Ice Island (T-3), April 18 to September 11, 1961, Scientific Report Number 6, Contract AF 19(604) 7442, Lamont Geological Observatory, Palisades, New York, July 1963.

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Table 2 Mean daily variation and mean value of the total intensity for quiet, disturbed and all days.

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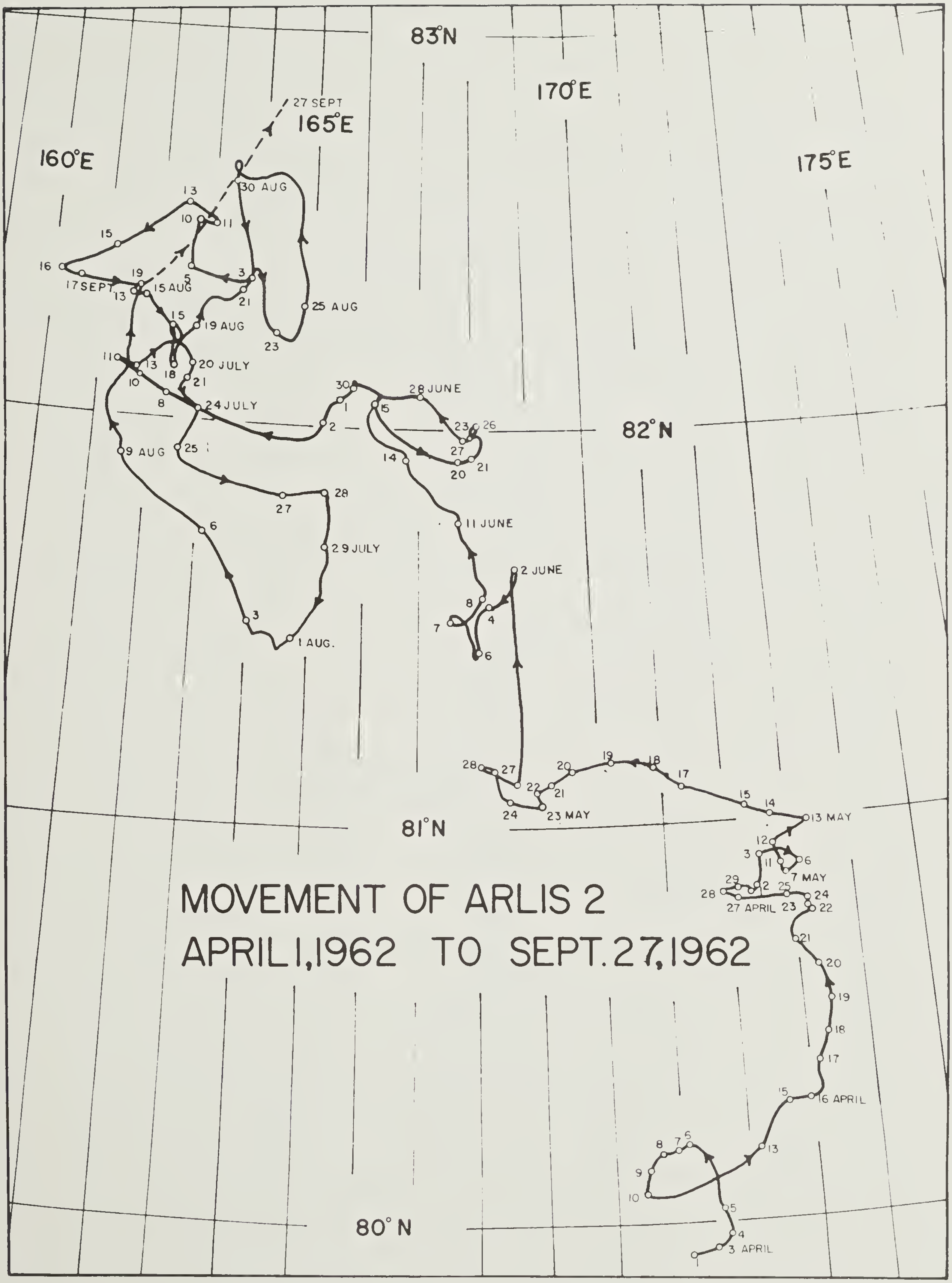
Figure 2 Hourly values in gamma of the magnetic field total intensity, June 3 to August 21, 1962. Q and D denote International Quiet and Disturbed Days respectively. The arrows indicate the times of worldwide sudden commencements.

Figure 3 Daily averages of the magnetic field total intensity measured on Arlis II compared with data from T-3 obtained in 1961.

Figure 4 Mean daily variation of the total intensity for quiet, disturbed and all days.



MOVEMENT OF ARLIS 2
APRIL 1, 1962 TO SEPT. 27, 1962

FIGURE 1

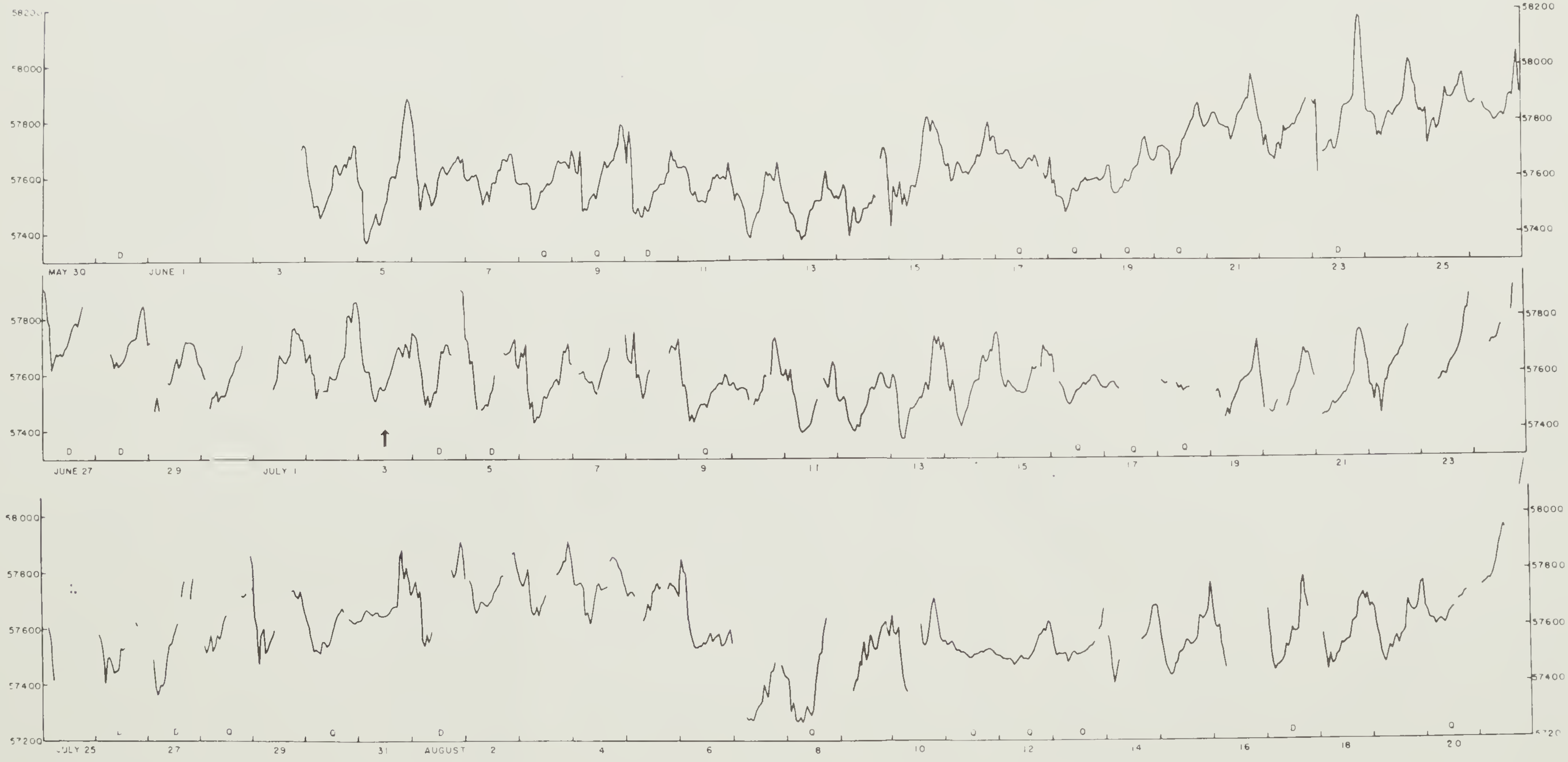

58200
58000
57800
57600
57400
MAY 30
JUNE 1
3
5
7
9
11
13
15
17
19
21
23
25
D
Q
JUNE 27
29
JULY 1
3
5
7
9
11
13
15
17
19
21
23
JULY 25
27
29
31
AUGUST
2
4
6
8
10
12
14
16
18
20
57200

FIGURE 2

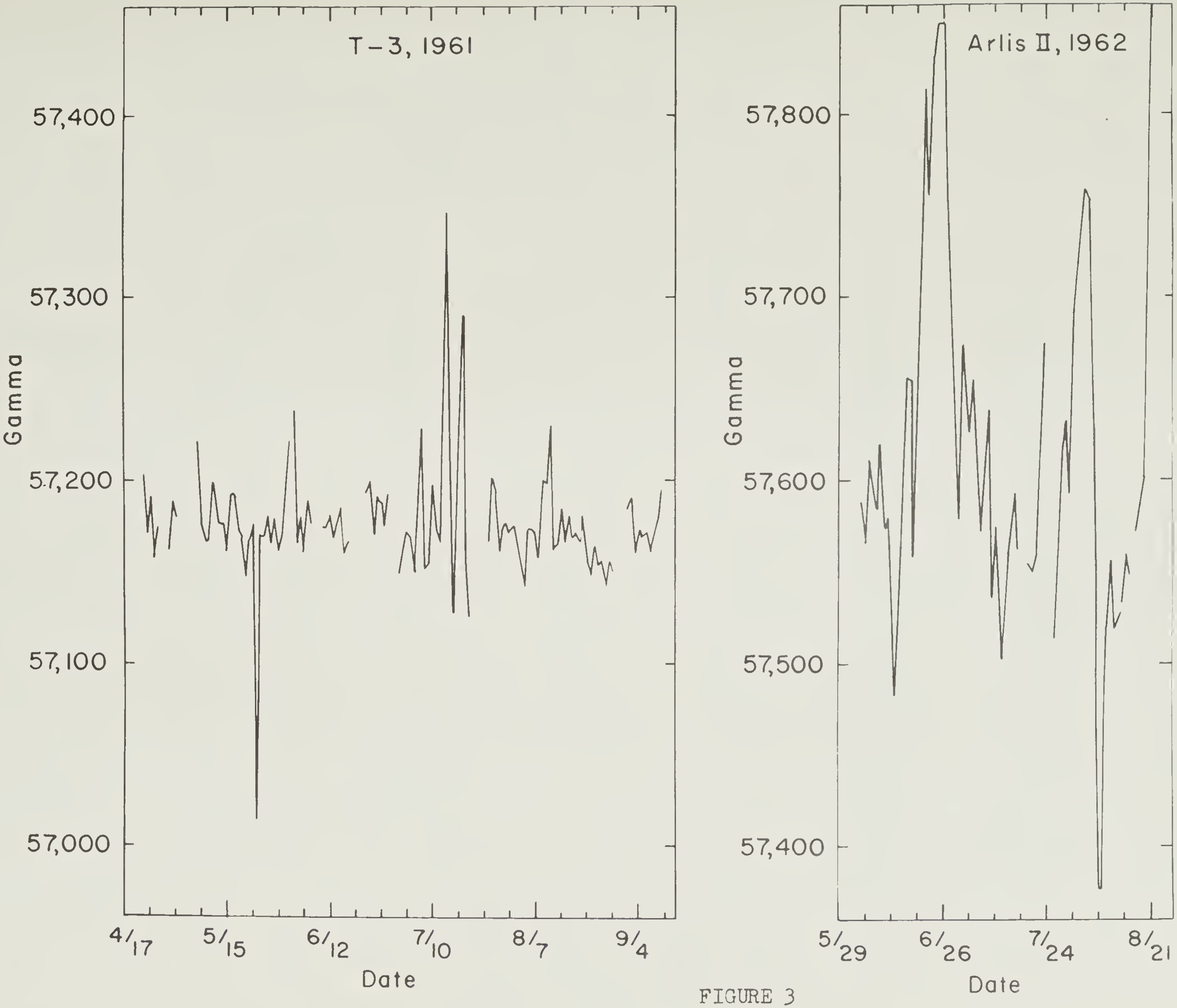

T-3, 1961
Gamma
57,400
57,300
57,200
57,100
57,000
4/17
5/15
6/12
7/10
8/7
9/4
Date
Arlis II, 1962
Gamma
57,800
57,700
57,600
57,500
57,400
5/29
6/26
7/24
8/21
Date

FIGURE 3

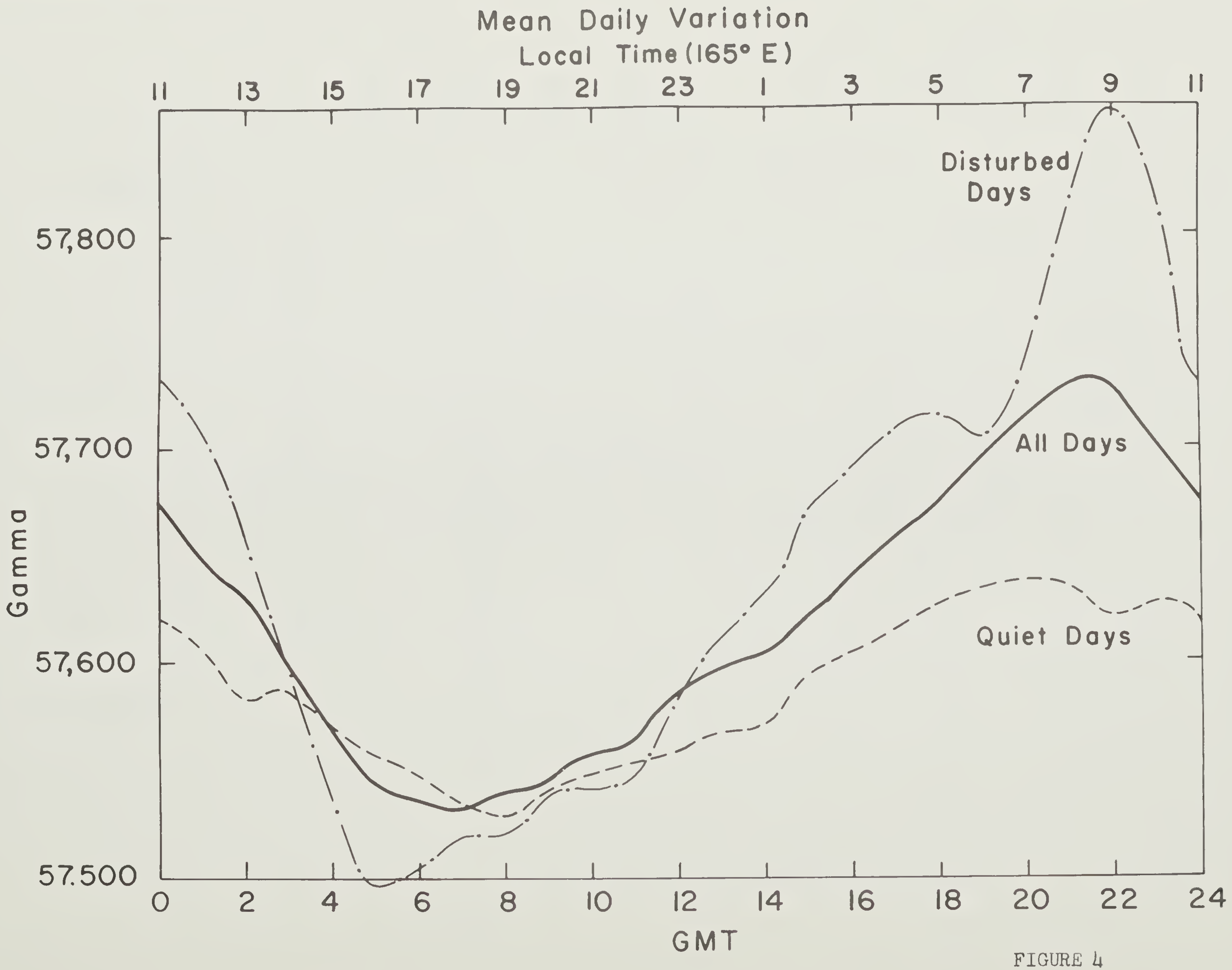

Mean Daily Variation
Local Time (165° E)
11
13
15
17
19
21
23
1
3
5
7
9
11
Disturbed Days
All Days
Quiet Days
57,800
57,700
57,600
57.500
Gamma
0
2
4
6
8
10
12
14
16
18
20
22
24
GMT

FIGURE 4

TABLE 1

HOURLY VALUES AND DAILY AVERAGES IN GAMMA OF THE MAGNETIC FIELD TOTAL INTENSITY
JUNE 3 TO AUGUST 21, 1962
AGAINST GREENWICH MEAN TIME

ARLIS II, 1962. TOTAL INTENSITY VS GMT

	30	31	01	02	03	04	05	MAY/JUNE
00	.	.	.	.	.	57709.	57590.	
01	.	.	.	.	.	57621.	57562.	
02	.	.	.	.	.	57573.	57555.	
03	.	.	.	.	.	57543.	57379.	
04	.	.	.	.	.	57493.	57363.	
05	.	.	.	.	.	57499.	57382.	
06	.	.	.	.	.	57500.	57419.	
07	.	.	.	.	.	57451.	57437.	
08	.	.	.	.	.	57478.	57473.	
09	.	.	.	.	.	57489.	57438.	
10	.	.	.	.	.	57510.	57429.	
11	.	.	.	.	.	57534.	57469.	
12	.	.	.	.	.	57555.	57498.	
13	.	.	.	.	.	57630.	57519.	
14	.	.	.	.	.	57646.	57588.	
15	.	.	.	.	.	57620.	57602.	
16	.	.	.	.	.	57607.	57602.	
17	.	.	.	.	.	57633.	57594.	
18	.	.	.	.	.	57650.	57647.	
19	.	.	.	.	.	57631.	57670.	
20	.	.	.	.	.	57676.	57759.	
21	.	.	.	.	.	57662.	57837.	
22	.	.	.	.	57696.	57714.	57881.	
23	.	.	.	.	57717.	57710.	57866.	
MEAN	+.00	+.00	+.00	+.00	+57706.50	+57588.91	+57564.95	

TABLE 1
(continued)

ARLIS II, 1962. TOTAL INTENSITY VS GMT

	06	07	08	09	10	11	12 JUNE
00	57813.	57599.	57578.	57718.	57729.	57632.	57603.
01	57753.	57589.	57576.	57670.	57647.	57634.	57569.
02	57657.	57594.	57580.	57619.	57765.	57633.	57513.
03	57569.	57606.	57577.	57612.	57683.	57639.	57544.
04	57481.	57603.	57581.	57697.	57479.	57632.	57533.
05	57544.	57611.	57569.	57479.	57468.	57604.	57513.
06	57584.	57588.	57487.	57493.	57491.	57547.	57493.
07	57554.	57542.	57486.	57485.	57460.	57532.	57431.
08	57533.	57500.	57498.	57521.	57456.	57550.	57392.
09	57496.	57533.	57521.	57533.	57498.	57514.	57380.
10	57518.	57553.	57553.	57543.	57478.	57511.	57422.
11	57536.	57510.	57550.	57520.	57479.	57518.	57450.
12	57599.	57581.	57567.	57552.	57512.	57511.	57472.
13	57623.	57582.	57578.	57591.	57550.	57507.	57471.
14	57641.	57581.	57574.	57624.	57550.	57552.	57511.
15	57621.	57628.	57585.	57659.	57559.	57553.	57544.
16	57609.	57624.	57603.	57632.	57576.	57600.	57618.
17	57629.	57667.	57640.	57643.	57575.	57594.	57600.
18	57640.	57665.	57662.	57659.	57576.	57610.	57612.
19	57653.	57658.	57650.	57659.	57613.	57594.	57593.
20	57657.	57683.	57654.	57694.	57617.	57596.	57585.
21	57678.	57685.	57659.	57717.	57697.	57603.	57652.
22	57648.	57632.	57647.	57789.	57657.	57589.	57606.
23	57670.	57584.	57630.	57784.	57662.	57654.	57562.
MEAN	+57612.75	+57599.91	+57583.54	+57620.54	+57574.04	+57579.54	+57527.87

TABLE 1
(continued)

ARLIS II, 1962. TOTAL INTENSITY VS GMT

	13	14	15	16	17	18	19 JUNE
00	57515.	57528.	57528.	57701.	57738.	57603.	57581.
01	57500.	57514.	57415.	57647.	57676.	57666.	57588.
02	57506.	57537.	57563.	57630.	57675.	57569.	57603.
03	57465.	57567.	57525.	57642.	57677.	57585.	57636.
04	57462.	57548.	57520.	57578.	57676.	57527.	57636.
05	57436.	57465.	57580.	57582.	57690.	57523.	57550.
06	57398.	57380.	57492.	57620.	57690.	57523.	57535.
07	57405.	57452.	57537.	57647.	57666.	57511.	57536.
08	57368.	57489.	57485.	57640.	57648.	57468.	57538.
09	57385.	57433.	57519.	57612.	57650.	57487.	57556.
10	57385.	57429.	57563.	57607.	57639.	57510.	57558.
11	57446.	57438.	57564.	57613.	57625.	57551.	57587.
12	57476.	57479.	57556.	57601.	57623.	57554.	57577.
13	57479.	57482.	57599.	57618.	57629.	57541.	57577.
14	57507.	57481.	57628.	57632.	57641.	57543.	57600.
15	57510.	57502.	57699.	57643.	57657.	57577.	57623.
16	57509.	57497.	57769.	57672.	57664.	57576.	57630.
17	57510.	57530.	57807.	57666.	57648.	57593.	57637.
18	57577.	57519.	57810.	57679.	57673.	57578.	57678.
19	57618.	.	57751.	57723.	57654.	57534.	57725.
20	57550.	57661.	57797.	57769.	57628.	57584.	57737.
21	57550.	57697.	57773.	57792.	.	57587.	57701.
22	57537.	57698.	57761.	57716.	57610.	57591.	57667.
23	57516.	57652.	57712.	57740.	57584.	57586.	57654.
MEAN	+57483.75	+57520.78	+57623.04	+57657.08	+57654.82	+57559.04	+57612.91

TABLE 1
(continued)

ARLIS II, 1962. TOTAL INTENSITY VS GMT

	20	21	22	23	24	25	26 JUNE
00	57652.	57777.	57791	57868.	57913.	57856.	57850.
01	57666.	57791.	57782.	57850.	57830.	57826.	57856.
02	57702.	57820.	57700.	57871.	57822.	57837.	57862.
03	57703.	57822.	57744.	57609.	57826.	57819.	57869.
04	57706.	57819.	57695.	.	57816.	57842.	.
05	57700.	57794.	57670.	57683.	57809.	57709.	.
06	57695.	57780.	57669.	57686.	57736.	57762.	57862.
07	57687.	57777.	57653.	57697.	57758.	57791.	57838.
08	57597.	57773.	57709.	57718.	57737.	57801.	57832.
09	57628.	57766.	57715.	57728.	57779.	57763.	57826.
10	57647.	57771.	57688.	57693.	57806.	57774.	57821.
11	57659.	57722.	57777.	57691.	57827.	57816.	57802.
12	57671.	57749.	57756.	57731.	57821.	57850.	57797.
13	57726.	57771.	57765.	57775.	57810.	57916.	57806.
14	57732.	57810.	57768.	57837.	57831.	57878.	57817.
15	57756.	57825.	57782.	57851.	57843.	57879.	57825.
16	57772.	57834.	57780.	57851.	57847.	57878.	57811.
17	57793.	57860.	57802.	57858.	57860.	57890.	57839.
18	57805.	57873.	57815.	57864.	57882.	57913.	57886.
19	57846.	57871.	57832.	57887.	57964.	57916.	57892.
20	57859.	57964.	57854.	58077.	58017.	57957.	57882.
21	57808.	57926.	57874.	58173.	58003.	57970.	57975.
22	57785.	57876.	.	58167.	57940.	57907.	58047.
23	57769.	57822.	.	58007.	57925.	57876.	57899.
MEAN	+57723.50	+57816.37	+57755.50	+57833.56	+57850.08	+57851.08	+57859.09

TABLE 1
(continued)

ARLIS II, 1962. TOTAL INTENSITY VS GMT

	27	28	29	30	01	02	03 JUNE/JULY
00	57908.	.	57706.	57632.	.	57643.	57832.
01	57898.	.	57714.	57599.	.	57659.	57729.
02	57813.	.	.	57585.	.	57680.	57648.
03	57781.	.	57470.	.	.	57606.	57615.
04	57613.	.	57524.	57480.	.	57603.	57610.
05	57652.	.	57474.	57525.	.	57513.	57615.
06	57680.	.	.	57523.	.	57555.	57547.
07	57670.	57679.	57545.	57545.	.	.	57514.
08	57680.	57657.	.	57505.	.	57542.	57505.
09	57671.	57624.	57572.	57529.	57551.	57545.	57547.
10	57694.	57651.	57569.	57525.	57568.	57543.	57560.
11	57703.	57629.	57596.	57525.	57587.	57598.	57547.
12	57735.	57641.	57634.	57553.	57672.	57587.	57547.
13	57761.	57651.	57662.	57585.	57658.	57585.	57574.
14	57781.	57669.	57625.	57599.	57647.	57585.	57598.
15	57790.	57708.	57645.	57616.	57642.	57619.	57615.
16	57771.	57719.	57689.	57647.	57664.	57646.	57652.
17	57810.	57727.	57722.	57655.	57673.	57662.	57680.
18	57848.	57728.	57718.	57667.	57764.	57667.	57702.
19	.	57736.	57719.	57711.	57768.	57809.	57688.
20	.	57796.	57714.	.	57746.	57813.	57663.
21	.	57833.	57710.	.	57750.	57784.	57711.
22	.	57851.	57660.	.	57723.	57856.	57700.
23	.	57799.	57639.	.	57727.	57860.	57659.
MEAN	+57750.47	+57711.64	+57633.66	+57579.26	+57676.00	+57650.43	+57627.41

TABLE 1
(continued)

ARLIS II, 1962. TOTAL INTENSITY VS GMT

	04	05	06	07	08	09	10 JULY
00	57753.	57732.	57621.	57640.	57746.	57731.	57563.
01	57743.	57719.	57684.	.	57663.	57651.	57574.
02	57731.	57637.	57660.	.	57644.	57560.	57549.
03	57663.	57655.	57710.	57604.	57640.	57563.	57544.
04	57612.	57555.	57542.	57606.	57755.	57509.	57555.
05	57551.	57477.	57476.	57614.	57586.	57431.	57554.
06	57492.	.	57509.	57588.	57602.	57460.	57552.
07	57532.	57478.	57426.	57580.	57561.	57428.	57547.
08	57482.	57481.	57452.	57572.	57513.	57454.	57507.
09	57520.	57497.	57447.	57579.	57541.	57478.	.
10	57545.	57490.	57469.	57544.	57599.	57494.	57489.
11	57538.	57529.	57528.	57529.	57618.	57494.	57515.
12	57615.	57544.	57516.	57559.	.	57498.	57503.
13	57688.	57600.	57527.	57582.	.	57480.	57532.
14	57677.	.	57550.	57616.	.	57514.	57540.
15	57711.	.	57560.	57639.	.	57537.	57597.
16	57708.	.	57577.	57654.	.	57545.	57593.
17	57672.	57680.	57587.	57697.	.	57553.	.
18	57672.	57671.	57562.	.	.	57567.	57596.
19	.	57676.	57610.	.	.	57572.	57718.
20	57711.	57680.	57688.	.	57675.	57563.	57734.
21	.	57712.	57677.	.	57706.	57604.	57687.
22	57904.	57729.	57714.	.	57698.	57594.	57636.
23	57895.	57638.	57642.	.	57684.	57561.	57597.
MEAN	+57655.22	+57609.00	+57572.25	+57600.18	+57639.43	+57535.04	+57576.45

TABLE 1
(continued)

ARLIS II, 1962. TOTAL INTENSITY VS GMT

	11	12	13	14	15	16	17 JULY
00	57594.	57520.	57549.	57717.	57750.	57657.	57547.
01	57622.	57502.	57603.	57660.	57711.	57668.	57545.
02	57576.	57506.	57590.	57604.	57597.	57599.	57548.
03	57621.	57523.	57537.	57534.	57560.	.	57564.
04	57543.	57506.	57406.	57584.	57549.	57569.	57567.
05	57514.	57437.	57370.	57531.	57578.	57556.	57567.
06	57457.	57422.	57369.	57455.	57567.	57543.	57551.
07	57407.	57403.	57409.	57437.	57549.	57512.	57544.
08	57392.	57394.	57454.	57410.	57547.	57492.	.
09	57399.	57421.	57482.	57446.	57533.	57487.	.
10	57406.	57411.	57479.	57467.	57536.	57504.	.
11	57412.	57456.	57485.	57487.	57511.	57524.	.
12	57422.	57460.	57502.	57528.	57510.	57540.	.
13	57455.	57479.	57518.	57555.	57512.	57542.	.
14	57481.	57496.	57512.	57572.	57537.	57550.	.
15	57511.	57546.	57538.	57578.	57587.	57567.	.
16	.	57554.	57574.	57577.	57623.	57556.	.
17	.	57542.	57540.	57646.	57613.	57566.	.
18	57586.	57564.	57582.	57667.	57623.	57573.	.
19	57571.	57594.	57666.	57642.	.	57590.	.
20	57551.	57606.	57740.	57647.	57619.	57592.	.
21	57596.	57597.	57702.	57684.	57701.	57585.	.
22	57646.	57562.	57735.	57676.	57677.	57569.	.
23	57626.	57549.	57680.	57737.	57680.	57556.	.
MEAN	+57517.63	+57502.08	+57542.58	+57576.70	+57594.34	+57560.73	+57554.12

TABLE 1
(continued)

ARLIS II, 1962. INTENSITY VS GMT

	18	19	20	21	22	23	24 JULY
00	.	.	57550.	57581.	57646.	.	.
01	.	.	57470.	.	57551.	.	.
02	57573.	.	.	.	57550.	.	.
03	57567.	57530.	57468.	57445.	57496.	.	.
04	57561.	57541.	57458.	57451.	57555.	.	.
05	57567.	57507.	57455.	57454.	57541.	.	.
06	.	.	57485.	57455.	57447.	.	.
07	.	57438.	57498.	57474.	57514.	.	.
08	.	57472.	.	57496.	57570.	57568.	57697.
09	57564.	57444.	57464.	57483.	57569.	57571.	57714.
10	57543.	57486.	.	57489.	57614.	57594.	57711.
11	57555.	57498.	57474.	57501.	57624.	57593.	57715.
12	57533.	57521.	57489.	57510.	57639.	57584.	57738.
13	57564.	57536.	57529.	57524.	57653.	57617.	57767.
14	57567.	57567.	57541.	57523.	57653.	57636.	.
15	57568.	57569.	57559.	57544.	57680.	57645.	.
16	.	57580.	57585.	57555.	57687.	57654.	.
17	.	57584.	57597.	57581.	57713.	57668.	.
18	.	57589.	57650.	57603.	57751.	57688.	57815.
19	.	57597.	57690.	57732.	57765.	57717.	57907.
20	.	57620.	57661.	57753.	.	57751.	.
21	.	57670.	57673.	57753.	.	57825.	.
22	.	57719.	57644.	57725.	57825.	57825.	.
23	.	57613.	57607.	57675.	.	57877.	.
MEAN	+57560.18	+57554.05	+57549.85	+57559.40	+57621.09	+57675.81	+57758.00

TABLE 1
(continued)

ARLIS II, 1962. TOTAL INTENSITY VS GMT

	25	26	27	28	29	30	31 JULY
00	.	.	.	.	57813.	57660.	57628.
01	.	.	.	.	57640.	57621.	57628.
02	.	57583.	.	57542.	57603.	57599.	57632.
03	57606.	57565.	57492.	57510.	57471.	57567.	57653.
04	57546.	57525.	57393.	57540.	57575.	57519.	57671.
05	57416.	57403.	57360.	57577.	57601.	57527.	57662.
06	.	57496.	57400.	57516.	57510.	57520.	57654.
07	.	57499.	57397.	57538.	57524.	57509.	57649.
08	.	57466.	57411.	57580.	57550.	57554.	57658.
09	.	57441.	57483.	57562.	57567.	57555.	57662.
10	.	57446.	57538.	57596.	57595.	57536.	57647.
11	.	57455.	57546.	57626.	.	57541.	57644.
12	.	57534.	57576.	57648.	.	57567.	57647.
13	.	57524.	57590.	.	.	57591.	57647.
14	.	57532.	57621.	.	.	57620.	57651.
15	.	.	.	.	.	57649.	57668.
16	.	.	57715.	.	.	57658.	57680.
17	.	.	57771.	.	.	57674.	57679.
18	.	.	.	.	57735.	57659.	57680.
19	.	57624.	.	57719.	57739.	.	57854.
20	.	57610.	57706.	57713.	57714.	57637.	57884.
21	.	.	57780.	57725.	57707.	57633.	57776.
22	.	.	.	.	57736.	57624.	57825.
23	.	.	.	57860.	57691.	57620.	57780.
MEAN	+57522.66	+57513.53	+57548.08	+57616.80	+57633.58.	+57593.04	+57689.95

TABLE 1
(continued)

ARLIS II, 1962. TOTAL INTENSITY VS GMT

	01	02	03	04	05	06	07 AUGUST
00	57719.	57776.	57792.	57817.	57746.	57709.	57545.
01	57743.	.	57763.	57756.	57712.	57844.	.
02	57772.	57771.	57748.	57753.	57726.	57799.	.
03	57708.	57753.	57775.	57758.	57728.	57794.	57415.
04	57737.	57676.	57811.	57763.	57714.	57647.	57424.
05	57560.	57653.	57717.	57743.	.	57590.	.
06	57536.	57671.	57656.	57645.	57677.	57558.	57286.
07	57581.	57694.	57647.	57658.	.	57531.	57272.
08	57550.	57694.	57680.	57612.	57623.	57527.	57280.
09	57589.	57682.	57641.	57644.	57647.	57536.	57270.
10	.	57680.	57681.	57691.	57688.	57533.	57296.
11	.	57691.	57697.	57746.	57659.	57550.	57316.
12	.	57704.	57719.	57760.	57726.	57541.	57329.
13	.	57728.	.	57735.	57734.	57559.	57338.
14	.	57740	.	57738.	57758.	57585.	57402.
15	.	57753.	.	57742.	57736.	57550.	57369.
16	.	57784.	.	57747.	57746.	57565.	57350.
17	.	57789.	57790.	57838.	.	57572.	57443.
18	57810.	.	57796.	57854.	.	57580.	57445.
19	57780.	.	57813.	57851.	57738.	57534.	57479.
20	57804.	.	57838.	57843.	57763.	57538.	.
21	57850.	57863.	57836.	57817.	57750.	57552.	.
22	57911.	57873.	57912.	57807.	57747.	57613.	57464.
23	57879.	57817.	57890.	57771.	57732.	57636.	57439.
MEAN	+57720.56	+57739.60	+57760.10	+57753.70	+57717.50	+57601.79	+57376.94

TABLE 1
(continued)

ARLIS II, 1962. TOTAL INTENSITY VS GMT

	08	09	10	11	12	13	14 AUGUST
00	57424.	.	57645.	57556.	57501.	57584.	.
01	57417.	.	57581.	57538.	57496.	57534.	57570.
02	57300.	.	57572.	57545.	57490.	57500.	57543.
03	57338.	.	57602.	57552.	57490.	57507.	57452.
04	57273.	.	57488.	57533.	57487.	57505.	57398.
05	57264.	.	57433.	57517.	57491.	57508.	57447.
06	57283.	57374.	57387.	57520.	57480.	57510.	57485.
07	57261.	57412.	57371.	57511.	57466.	57475.	.
08	57289.	57412.	.	57514.	57478.	57491.	.
09	57325.	57478.	57415.	57509.	57487.	57509.	.
10	57300.	57463.	.	57501.	57500.	57516.	.
11	57287.	57550.	.	57492.	57489.	57501.	.
12	57308.	57480.	.	57491.	57491.	57505.	.
13	57406.	57501.	57612.	57505.	57484.	57507.	.
14	57443.	57575.	57547.	57505.	57491.	57512.	.
15	57507.	57540.	57534.	57509.	57505.	57514.	.
16	57510.	57521.	57554.	57515.	57518.	57524.	57557.
17	57587.	57523.	57625.	57511.	57546.	57532.	57562.
18	57634.	57558.	57677.	57520.	57572.	57534.	57567.
19	.	57600.	57706.	57521.	57575.	57549.	57595.
20	.	57609.	57660.	57527.	57596.	.	57623.
21	.	57621.	57604.	57519.	57585.	57592.	57673.
22	.	57589.	57561.	57511.	57622.	57606.	57680.
23	.	57564.	57549.	57501.	57619.	57667.	57681.
MEAN	+57376.63	+57520.55	+57556.15	+57517.62	+57519.12	+57529.65	+57559.50

TABLE 1
(continued)

ARLIS II, 1962. TOTAL INTENSITY VS GMT

.	15	16	17	18	19	20	21 AUGUST
00	57615.	57688.	.	57776.	57675.	57668.	57792.
01	57557.	57618.	57661.	.	57663.	57655.	.
02	57513.	57594.	57581.	57574.	57596.	57624.	57738.
03	57466.	57606.	57473.	57510.	57566.	57625.	57749.
04	57409.	57532.	57443.	57442.	57510.	57621.	57752.
05.	57428.	57494.	57464.	57504.	57481.	57598.	57764.
06.	57430.	57454.	57464.	57462.	57466.	57614.	57759.
07	57469.	.	57474.	57471.	57499.	57621.	57783.
08	57473.	.	57488.	57499.	57529.	57617.	57810.
09	57511.	.	57536.	57502.	57512.	57604.	57839.
10	57509.	.	57525.	57541.	57549.	57624.	57887.
11	57524.	.	57547.	57534.	57567.	57647.	.
12	57554.	.	57596.	57547.	57534.	57655.	57955.
13	57551.	.	57581.	57551.	57567.	57664.	57944.
14	57534.	.	57582.	57553.	57572.	.	.
15	57538.	.	57590.	57612.	57593.	57691.	.
16	57545.	.	57737.	57617.	57695.	57694.	.
17	57559.	.	57779.	57628.	57667.	57700.	.
18	57640.	.	57699.	57689.	57657.	57717.	.
19	57635	.	57662.	57705.	57651.	57721.	.
20	57625.	.	.	57718.	57657.	.	58091.
21	57644.	.	.	57687.	57700.	57719.	58131.
22	57660.	57850.	.	57714.	57748.	.	58186.
23	57761.	.	.	57663.	57760.	57777.	.
MEAN	+57547.91	+57604.50	+57572.73	+57586.91	+57600.58	+57659.80	+57878.66

TABLE 2

MEAN DAILY VARIATION AND MEAN VALUE OF THE TOTAL INTENSITY IN GAMMAS

Hour (GMT)	International Quiet Days	International Disturbed Days	All Days
0	57620	57731	57676
1	57606	57705	57648
2	57583	57656	57629
3	57586	57591	57598
4	57571	57533	57568
5	57557	57495	57544
6	57548	57503	57536
7	57535	57519	57533
8	57529	57521	57540
9	57541	57539	57546
10	57548	57542	57559
11	57555	57546	57564
12	57559	57583	57585
13	57568	57611	57600
14	57571	57632	57606
15	57595	57672	57623
16	57605	57691	57640
17	57616	57710	57659
18	57628	57716	57674
19	57635	57706	57696
20	57638	57741	57715
21	57636	57811	57730
22	57621	57858	57728
23	57627	57816	57701
Mean	57585	57650	57618

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